

REMARKS

Applicants appreciate the time taken by the Examiner to review Applicants' present application. This application has been carefully reviewed in light of the Official Action mailed May 23, 2003. Applicants respectfully request reconsideration and favorable action in this case.

Rejections under 35 U.S.C. § 102

Claims 1 and 9 stand rejected under 35 U.S.C. § 102 as being unpatentable over U.S. Patent No. 5,497,254, issued to Amako et al. The examiner states that Amako, et al. teaches an apparatus and method for forming a three dimensional solid structure as claimed in the present invention.

The applicant respectfully submits that Amako relates only to stereo lithography techniques that crosslink optical resins using a scanned laser. This is evidenced in Amako as a "device which forms three dimensional models formed from an optical resin." (Amako, Col. 1, Lines 49-50.) Further, Amako's discussion of figures 25 and 26 clearly relate to the formation of a model by solidifying resins within a tank. Thus, Amako relates to a system and method that employs a scanned laser to crosslink polymers or other like resins and does not anticipate the dissociation of gas precursors using holograms. Further, Amako teaches that a laser is scanned as opposed to imaging an entire cross-section or layer as claimed in the present invention. This difference allows individual layers to be rapidly formed in a single step as opposed to slowly formed in numerous steps that require the formation and joining of a number of points.

The applicant respectfully submits that amended independent claims 1 and 9 clearly, as amended, claim that a solid is formed from a series of layers. The layers are created by gas precursors (not optical resins or liquids) that are dissociated (not cross linked) by energy imparted from a holographic image. Thus, an entire layer is imaged and formed in a single step as opposed to scanning numerous individual points. As such, Applicant respectfully requests the Examiner withdraw the rejections and allow Claims 1 and 9.

Rejections under 35 U.S.C. § 103

Claims 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Amako et al. in view of U.S. Patent No. 5,017,317, issued to Marcus. The examiner states that Amako, et al. teaches an apparatus and method for forming a three dimensional solid structure as claimed in the present invention and that Marcus introduces the use of gaseous organometallic compounds.

Applicant respectfully points out that in order to combine references for an obviousness rejection, there must be some teaching, suggestion or incentives supporting the combination. *In re Laskowski*, 871 F.2d 115, 117, 10 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989). The mere fact that the prior art could be modified does not make that modification obvious unless the prior art suggests the desirability of the modification. *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). In addition, it is well established that Applicant's disclosure cannot be used to reconstruct Applicant's invention from individual pieces found in separate, isolated references. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988).

Applicant respectfully submits that there is no motivation, teaching or suggestion to combine Amako with Marcus. Therefore, the rejection on a combination of these references is inappropriate. Withdrawal of the rejection allowance of Claim 3 is respectfully requested.

Applicant further submits that neither Amako or Marcus alone nor the combination of the two teaches or suggests make obvious the invention recited in Claim 3 because the cited references do not disclose a holographic deposition system that uses gaseous precursors.

The applicant respectfully submits that Amako relates only to stereo lithography techniques that crosslink optical resins using a scanned laser. Therefore, the applicant respectfully submits that it is improper and no motivation exists to apply the teachings of Amako to the patterned deposition of any material using the dissociation of gaseous precursors. Amako merely relates to a system and method that employs a scanned laser to crosslink polymers or other like resins and does not anticipate the dissociation of gas precursors using holograms.

The applicant respectfully submits that Marcus teaches that a laser may be "scanned over a target area ... to deposit materials." (Marcus, abstract) Markus merely teaches that a scanned laser may cause preferential photodecomposition to selectively deposit materials. Thus, it is improper to apply Marcus when the present invention claims the use of a holographic image to pattern the deposition of a layer as a single step using gaseous

precursors. This differs significantly from the claimed invention. Further, there is no motivation to combine these references.

Therefore the applicant respectfully submits that no motivation exists to apply the teachings of Amako to the teachings of Marcus. Furthermore, when combined these two references still fail to teach the claimed invention of the present invention.

Applicant, therefore, respectfully requests the Examiner to reconsider and withdraw the rejection to allow Claim 3.

Claims 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Amako et al. in view of U.S. Patent No. 6,312,768, issued to Rode. The examiner states that Amako, et al. teaches an apparatus and method for forming a three dimensional solid structure as claimed in the present invention and that Rode introduces the use of transparent window to image a hologram within the process chamber.

Applicant respectfully submits that there is no motivation, teaching or suggestion to combine Amako with Rode. Therefore, the rejection on a combination of these references is inappropriate. Withdrawal of the rejection allowance of Claim 7 is respectfully requested.

Applicant further submits that neither Amako or Rode alone nor the combination of the two teaches or suggests make obvious the invention recited in Claim 7 because the cited references do not disclose a holographic deposition system that images a hologram within a process chamber using gaseous precursors.

The applicant respectfully submits that Amako relates only to stereo lithography techniques that crosslink optical resins using a scanned laser. Therefore, the applicant respectfully submits that it is improper and no motivation exists to apply the teachings of Amako to the patterned deposition of any material using the dissociation of gaseous precursors. Amako merely relates to a system and method that employs a scanned laser to crosslink polymers or other like resins and does not anticipate the dissociation of gas precursors using holograms.

The applicant respectfully submits that Rode mere teaches that a window may exist with which a pulsed laser may be introduced into the process chamber. No reference is made in Rode as to the fact that a holographic image may be projected through the window and into the process chamber.

Applicant, therefore, respectfully requests the Examiner to reconsider and withdraw the rejection to allow Claim 7.

Claims 8 stands rejected under 35 U.S.C. § 103 as being unpatentable over Amako et al. in view of Marcus and further in view of Rode. The examiner states that Amako, et al. teaches an apparatus and method for forming a three dimensional solid structure as claimed in the present invention and that Marcus introduces the use of gaseous organometallic compounds. The examiner further states that Rode introduces the use of transparent window to image a hologram within the process chamber.

Applicant respectfully submits that there is no motivation, teaching or suggestion to combine Amako with Marcus or Rode. Therefore, the rejection on a combination of these references is inappropriate. Withdrawal of the rejection allowance of Claims 8 is respectfully requested.

Applicant further submits that neither Amako or Marcus or Rode alone nor any combination teaches or suggests make obvious the invention recited in Claim 8. Applicant respectfully submits that there is no motivation, teaching or suggestion to combine Amako with Marcus. Therefore, the rejection on a combination of these references is inappropriate. Withdrawal of the rejection allowance of Claim 8 is respectfully requested.

The applicant respectfully submits that Amako relates only to stereo lithography techniques that crosslink optical resins using a scanned laser. Therefore, the applicant respectfully submits that it is improper and no motivation exists to apply the teachings of Amako to the patterned deposition of any material using the dissociation of gaseous precursors. Amako merely relates to a system and method that employs a scanned laser to crosslink polymers or other like resins and does not anticipate the dissociation of gas precursors using holograms.

The applicant respectfully submits that Marcus teaches that a laser may be “scanned over a target area ... to deposit materials.” (Marcus, abstract) Markus merely teaches that a scanned laser may cause preferential photodecomposition to selectively deposit materials. Thus, it is improper to apply Marcus when the present invention claims the use of a holographic image to pattern the deposition of a layer as a single step using gaseous precursors. This differs significantly from the claimed invention. Further, there is no motivation to combine these references.

The applicant respectfully submits that Rode mere teaches that a window may exist with which a pulsed laser may be introduced into the process chamber. No reference is made in Rode as to the fact that a holographic image may be projected through the window and into the process chamber.

Therefore the applicant respectfully submits that no motivation exists to apply the teachings of Amako to the teachings of Marcus or Rode. Furthermore, when combined these references still fail to teach the claimed invention of the present invention.

Applicant, therefore, respectfully requests the Examiner to reconsider and withdraw the rejection to allow Claim 8.

Additional Claims

Claims 10-25 have been added to more particularly claim the invention with regard to the above stated limitations.

Conclusion

Applicants have now made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicants respectfully request full allowance of Claims 1, 3, 7-25.

An extension of three (3) months is requested and a Notification of Extension of Time Under 37 C.F.R. § 1.136 with the appropriate fee is attached hereto.

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-2240 of Koestner Bertani LLP.

Respectfully submitted,

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